In the Specification:

Page 1, line 9, through page 2, line 21, please replace the paragraph thereat with the following marked-up paragraph.

--Conventional spectrometers, as illustrated in Figure 1a, utilize diffraction gratings or similar elements to disperse a light signal. The diffraction grating can be moved or scanned such that the dispersed light signal is incident on a single photo detector. The detector is chosen so that its spectral response is matched to that of the incoming radiation and of the grating. As the diffraction grating is moved in a step-wise fashion, distinct wave bands of light are detected and a spectrum of the incident light intensity is generated as a function of time. Alternatively, a linear array of photo detectors, all of which have identical photoresponse, can be placed in the path of a dispersed light signal from a fixed diffraction grating. However, these prior art devices cannot process temporal, spatial and spectroscopic data simultaneously.--

Page 3, line 22, through page 4, line 2, please replace the paragraph thereat with the following marked-up paragraph.

--Figures 3a and 3b[[-3c]] show the epitaxy and photolift steps to form an epitaxial layer of a compound semiconducting material that is the basis of the multi-spectral photodetector array according to the present invention.--

Page 4, line 22, through page 5, line 10, please replace the paragraph thereat with the following marked-up paragraph.

--Referring now to Figures 1b and 2b ~~is a~~ representations of a linear multispectral photodetector array and of a two-dimensional array according to embodiments of the present invention are shown. In the latter example, t~~T~~he multispectral photodetector array includes a two-dimensional array of photodetectors, either photodiodes or photoconductors, coupled to a read out integrated circuit, whose function is to collect electrical signals from individual pixels. Such an array differs from a conventional array, such as that shown in Figure 2a, in that each row or group of rows in the array has a distinct spectral response. It will be appreciated that t~~T~~he dimensions~~size~~ of the array, of Figure 2b, is arbitrary and may be chosen to suit the needs of specific applications. The upper size limit is dictated primarily by that area of suitable semiconducting material that is available, as well as limitations imposed by conventional semiconductor device processing methods.--

Page 5, line 18, through page 6, line 3, please replace the paragraph thereat with the following marked-up paragraph.

--As illustrated in Figure 2a, in a conventional system, i~~I~~n order to generate a spectral image of a scene (i.e. simultaneously acquire spectral and spatial data), a two-dimensional array of such photo detectors is placed in the path of a dispersed light signal from a fixed diffraction grating such that each row of pixels detects a distinct waveband. ~~Such a system is pictured schematically in Figures 2b.~~ A mirror may be~~is~~

moved in a step-wise fashion to scan the scene and generate spatial information. For one complete cycle of the mirror's motion, corresponding to one scan line of the scene, the signals from each column generate spatial data.--

Page 6, line 10, through page 7, line 2, please replace the paragraph thereat with the following marked-up paragraph.

--In accordance with the present invention, t~~T~~he multispectral photodetector array of Figure 2b derives its functionality from the inherent opto-electrical properties of ternary and quaternary compound semiconducting materials. Its fabrication is facilitated by advanced epitaxial technology (band gap engineering), which allows precise control over the thickness and chemical composition of deposited compound semiconductors. Semiconducting material absorbs photons with energies greater than a certain energy, which is a characteristic of a given material; this characteristic energy is known as the band gap energy. The material is transparent to photons with energies less than the band gap energy. Furthermore, for a ternary (or quaternary) compound semiconducting material system, such as $Hg_{1-x}Cd_xTe$, the band gap varies with chemical composition (x value). Therefore, by changing the chemical composition of a material in a deliberate manner, one can control the band gap and therefore, the spectral response of the material.--

Page 8, line 15, please add the following new paragraph.

--While the present invention has been described in connection with what are presently considered to be the most practical and preferred embodiments, it is to be understood that the present invention is not limited to these herein disclosed embodiments. Rather, the present invention is intended to cover all of the various modifications and equivalent arrangements included within the spirit and scope of the appended claims.--